

REMARKS/ARGUMENTS

FIG. 5 in the specification illustrates a shaft sealing gasket 134 disposed about and connecting adjacent end portions of the hub 126a of rotor 126 and the intermediate portion of drive shaft 124. This arrangement is described on page 9 of the specification, wherein it is stated that the shaft sealing gasket 134 prevents cementitious material deposited in the suction housing 120 from entering an end slot 126b within the rotor's hub 126a and from coming in contact with various pump components such as connecting pin 130 and connecting rod 128 connecting the intermediate portion of drive shaft 124 to the rotor's hub. The longitudinal section of the rotor/stator pump 50 of FIG. 3 also illustrates a cylindrical sealing gasket 114 disposed about and connecting adjacent end portions of the hub 110 of rotor 54 and an intermediate portion 64a of drive shaft 64. Details of this illustrated arrangement are recited in original claims 8-12. This description of the invention has been added to the specification at the bottom of page 9 in order to describe what is illustrated in FIG. 3. The addition of this description does not add "new matter" to the specification as this description is set forth in the originally filed claims and is the same as that relating to FIG. 5 in the original specification.

Independent claim 16 has been indicated to be allowable. Dependant claims 5-7 and 13-15 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 13 has been rewritten in independent form so as to include all of the limitations of the base claim and any intervening claims. Thus, amended claim 13 and claims 14 and 15 depending therefrom are also now allowable.

Claims 1-4 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 3, 467, 018 to Presson. Claims 8-12 stand rejected under 35 USC §103(a) as being unpatentable over Presson as applied to claims 1-4, and further in view of U.S. Patent No. 4,237,704 to Varadan.

The Examiner acknowledges that Presson does not disclose a suction housing having plural removable plates, as claimed., However, the Examiner states that it appears that the pump of Presson would perform equally well with an additional removable plate disposed opposite to the existing plate and that it would have been an obvious matter of design choice to modify the pump of Presson by utilizing plural plates, as claimed.

Claim 1 has been amended to recite that the sealed suction housing enclosing the connector coupling the drive stage to the rotor/stator mechanism includes front and aft walls adapted for connection respectively to the rotor/stator mechanism and to the drive stage. Claim 1 has further been amended to recite that the suction housing includes plural removable side plates for exposing the connector and an inner portion of the suction housing to facilitate cleaning and repair of the pump. These changes distinguish claim 1 and all claims depending therefrom from the patent to Presson as explained in the following paragraphs.

The slurry pump of Presson is designed to blow onto a wall a putty-like texturing material to provide a textured finish resembling plaster. The Presson slurry pump delivers the putty-like texturing material to a nozzle to which is also fed compressed air. The wall texturing material and the air is then mixed in the nozzle and exits in the form of a spray and is allowed to dry on the wall

surface to form the desired texture. See col. 1, lines 36-53. This putty-like texturing material is used in taping the seams of wallboard panels as well as in spackling applications, i.e., filling cracks and holes before painting or papering. This putty-like texturing material does not set as quickly as cementitious material as used in the claimed invention, nor is it as hard or as strong upon setting, or curing, as is a cementitious material. The cementitious material with which the claimed invention is intended for use begins to set immediately following discontinuation of the pumping action and cures to a form of material which is of high strength, rigid and fluid flow-resistant. These characteristics render the cementitious material virtually impossible to remove from the pump after the material sets, requiring the pump to be meticulously cleaned and all cementitious material removed immediately following each use of the pump. The thick texture of the cementitious material during pumping and its characteristics after setting requires that the entire interior of the pump be thoroughly cleaned and all residual cementitious material removed. Removing a single panel, or wall, from the pump for cleaning the pump of cementitious material makes pump cleaning much more difficult and time consuming, and makes it highly unlikely that all of the cementitious material can be removed from the pump without the application of large volumes of water under very high pressure. Inner components of these types of pumps, such as rubber or elastomeric gaskets, are subject to damage and deterioration when subjected to high pressure water jets for cleaning residual material from the pump after use. In fact, the primary purpose of the slurry pump design of Presson is to facilitate repair or replacement of the rotary seal 33 comprised of rubber disc 34 which forms a seal about the rotating drive shaft 28 as shown in

FIG. 2.

When wear occurs in the rotary seal 33 disposed about and engaging the drive shaft 28 in Presson, access for repair or replacement of the seal is provided by disconnecting the outer end of connecting shaft 38 from the drive shaft 28 by removing collar 44 from its locking position over pin 42. Connector pin 42 is disposed in a pair of radially aligned holes 43 in the drive shaft 28 and passes therethrough and into a passage 40 within the toggle ball 39 for interconnecting the drive shaft 28 and connecting shaft 38. Displacement of the connecting pin 42 from the radially directed passage 40 and the radially aligned holes 43 disconnects the connecting shaft 38 from the drive shaft 28. After this disconnection, the auger assembly 17 can be removed from the supply chamber housing 12 by removing bolts 25 which hold the supply chamber access plate 24 in position. Access is then provided to the rotary seal 34 through the supply chamber access port 26. Bolts 36 which hold the mounting ring 37 may then be removed, and the hard rubber disc 35 may be removed for repair or replacement. See column 3, line 63-column 4, line 2. This is the disclosed purpose for removing the supply chamber access plate 24 in Presson, i.e., to repair or replace the hard rubber disc 35 forming a seal about drive shaft 28. The purpose of removing Presson's supply chamber access plate 24 is not to clean the slurry pump's housing 12 as alleged by the Examiner. It is respectfully submitted that removal of access plate 24 would not facilitate cleaning of the slurry pump's housing 12 because of the location of the rubber disc 34 seal and end of the drive shaft 28 within the supply chamber 14. To ensure adequate cleaning of the supply chamber 14, drain plug 49 located on the bottom of the supply chamber would have to be

removed. The limited size aperture formed by removal of drain plug 49 would be of only limited use in cleaning a dense, heavy material such as of a cementitious composition from the pump housing. Thus, it is the threaded drain plug 49 which is disclosed as facilitating cleaning of the slurry pump's supply chamber 14, while removal of the supply chamber access plate 24 is disclosed not in terms of facilitating cleaning of the slurry pump, but rather for repair or replacement of the pump's rotary seal 33 disposed about drive shaft 28. In fact, removal of the supply chamber access plate 24 to clean the material being pumped after each usage of Presson's slurry pump would be impractical as it requires disconnection of the connecting shaft 38 from the drive shaft 28 and removal of the entire auger assembly 17 from the slurry pump 10 prior to disconnecting and removal of the supply chamber's access plate. This involved and time consuming procedure would render this type of pump impractical in the pumping of a difficult to remove material which must be cleaned from the pump after each usage.

The easily removable side panels of Applicant's invention also facilitate visual inspection of the inside of the pump housing to determine when the pump housing requires cleaning on an "as needed" basis. The composition of the types of cementitious materials with which Applicant's invention is intended for use varies widely, particularly with the increasing use of various additives over wide concentration ranges to achieve desired performance characteristics. The removable pump housing side panels of Applicant's invention facilitate frequent visual inspection of the inside of the pump housing to determine the extent of residual cementitious material buildup and the need to clean the pump housing.

The patent to Varadan relied upon by the Examiner as a secondary reference is directed to an Oldham type coupling for a progressive cavity-type pump, wherein the pump's rotor undergoes eccentric motion relative to its stator and its drive shaft and is also subject to end thrust due to the difference in fluid pressure at the inlet and outlet ends of the rotor. The Oldham type coupling 20 in Varadan is provided with plural rollers in connecting adjacent ends of the pump's shaft 16 to its rotor 12. First, second, third and fourth sets of rollers 31, 32, 33 and 34 are provided in coupling 20 to accommodate the aforementioned eccentric motion and end thrust. A resilient sleeve 61 is disposed about the coupling 20 and encloses the various sets of rollers to "not only protect the coupling against entrance of foreign material from the surrounding medium, but to also retain a quantity of lubricating oil around the coupling." See col. 5, lines 35-39. Varadan does not disclose any arrangement for cleaning the aforementioned foreign material being pumped from the pump's housing. Nor is there any disclosure or suggestion in Varadan of removing any portion of the pump's housing to clean out the housing. Moreover, there no motivation to combine Presson with Varadan as suggested by the Examiner as Presson discloses a removable supply chamber access plate 24 located on the end of the pump housing for servicing pump components within its supply chamber 14, while Varadan discloses a pump fitting 15 having a removable side cover 15c which is sufficiently large to allow movement of the coupling member into and out of the fitting. See col. 6, lines 20-27.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all the claimed limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and must not be based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ 2nd 1438 (Fed. Cir. 1991). In the present case, neither of the two cited references discloses a sealed suction housing for a pump for use with cementitious material which includes a removable plate which facilitates repair and cleaning of the pump. The removable end wall in Presson is disclosed as only for use in repair or replacement of the pump's inner seal and would be impractical to remove after each usage to clean cementitious material from the pump's housing as this requires disconnection of the pump's drive shaft and auger and removal of the auger. Varadan does not disclose any removable panel for cleaning the pump's housing. Moreover, the initial burden is on the examiner to provide some suggestion in the prior art of the desirability of doing what the inventor has done. In the present rejection, the Examiner has merely located two isolated references which allegedly disclose separate portions of Applicant's invention. The Examiner has failed to provide any support that either of the cited references expressly or impliedly suggest the claimed invention. Nor has the Examiner presented a convincing line of reasoning as to why one skilled in the art would have found the claimed invention to have been obvious in light of the teachings of the references themselves. The Examiner is required to set forth a convincing line of reasoning leading to the obvious

combination of the cited references. *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). As neither of the cited references discloses or even suggests the incorporation of removable panels in a pump housing to facilitate cleaning cementitious material from the pump after use, Applicant does not appreciate how these references could be combined to arrive at the claimed invention. The Examiner has neither provided the suggestion or motivation in either of the cited references to combine it with the other reference, nor has the Examiner presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the two cited references.

With this amendment, all of the pending claims are believed to define patentable subject matter. Therefore, reconsideration and allowance of the pending claims is respectfully solicited.

Respectfully submitted,



Date: December 28, 2004

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